United States Department of Agriculture
Natural Resources Conservation Service

East Texas Plant Materials Center

Nacogdoches, Texas

2000 Annual Activity Report

Using Vegetative Hedges to Control Soil Erosion

March 2000

These photos were taken from the same vantagepoint

August 2000

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Using Plants and Technology to Meet Conservation Needs

Introduction

History

The East Texas Plant Materials Center, established in 1982, is part of the USDA Natural Resources Conservation Service and one of 26 Centers nationwide.

The Plant Materials Center is a joint venture between the following parties:

1. USDA Natural Resources Conservation Service
2. Soil and Water Conservation Districts of east Texas and northwestern Louisiana
3. Deep East and Northeast Texas Associations of Soil and Water Conservation Districts
4. Stephen F. Austin University Agriculture Department
5. Stephen F. Austin Arthur Temple College of Forestry
6. USDA/United States Forest Service
7. Pineywoods Resource Conservation Development, Inc.

Mission

The mission of the Natural Resources Conservation Service Plant Materials Program is to develop and transfer plant materials and technology for the conservation of natural resources. In working with a broad range of plant species, including grasses, forbs, trees, and shrubs, the program seeks to address priority needs of field offices and land managers in both public and private sectors.

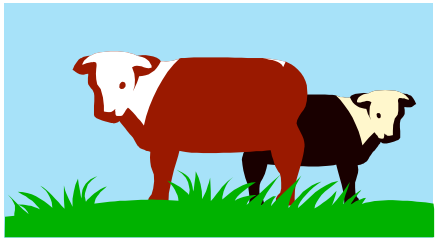
Service Area

The East Texas PMC Service area consists of approximately 48.2 million acres in east Texas and northwestern Louisiana. The topography is diverse ranging from nearly level floodplains to strongly sloping forested land and prairies. Average annual precipitation ranges from 32 to 56 inches.

Major Land Resource Areas included in the PMC service area are:

1) 84C – East Cross Timbers
2) 86 A&B – Texas Blackland Prairies
3) 87 A&B – Texas Claypan area
4) 133B – Western Coastal Plains
5) 150A – Gulf Coast Prairies
6) 152B – Western Gulf Coast

Priority Issues of the East Texas Plant Materials Center Service Area



- Plant selections for surface mine reclamation
- Plant selections and cultural techniques for revegetation following timber cutting operations
- Plant selections and establishment techniques for saline and high water table soils
- Plant selections and cultural techniques for streambank stabilization and frequently flooded bottomlands
- Plant selections for wildlife food and cover
- Plant selections and establishment information for domestic livestock forages
- Plant selections for use in wetlands and home constructed wetlands for water quality improvement

ETPMC Board of Directors

A Board of Directors provides overall guidance and direction toward PMC objectives.

Angus Mims
Dr. Leon Young
Harold Stone
George Wilkins
Albert Evans
Roweland Patrick
Dr. Scott Beasley
Dr. Ron Thill
Joe Daniel
Micah Poteet

The PMC is Supported and Assisted By:

Richard White	National Plant Materials Specialist
John Burt	Texas State Conservationist – Temple, Texas
Don Gohmert	Louisiana State Conservationist – Alexandria, Louisiana
James Alderson	Plant Materials Specialist – Texas
Mike Materne	Plant Materials Specialist - Louisiana

The Plant Materials Technical Committee provides technical guidance for plant materials studies, collections, selections, and releases. The Committee is comprised of stakeholders from industry, agencies, universities, SWCD's, and other appropriate organizations.

East Texas Plant Materials Staff

Jim Stevens	PMC Manager
Melinda Brakie	Conservation Agronomist
Timothy Allen	Biological Technician
Jackie Keel	Biological Aide
Timothy Coats	Biological Aide (01-04/2000)
Jean Adams	Earth Team Volunteer
Melvin Adams	Earth Team Volunteer
Kay Burnell	Earth Team Volunteer
Jack Burnell	Earth Team Volunteer

Contributing Soil and Water Conservation Districts of Texas and Louisiana

These Soil and Water Conservation Districts contributed funds for the support of the Plant Materials Center during calendar year 2000. These funds were used to purchase operating supplies.

1. Anderson-Houston
2. Harrison County
3. Lower Trinity
4. Grant
5. Rusk
6. Bedias Creek
7. Bowie County
8. Davy Crockett-Trinity
9. Freestone County
10. Lower Neches
11. Montgomery
12. Panola
13. Pineywoods
14. Red River
15. Robertson County
16. Trinity-Neches
17. Upshur-Gregg
18. Walker County
19. Limestone-Falls
20. Smith County
21. Cherokee County
22. Marion-Cass
23. Coastal
24. Sabine - Louisiana

The Big 8 RC&D in Bryan, Texas also contributed funds for support of the Plant Materials Center.

The Plant Materials Program Evaluation and Release Process

Below are the steps taken when selecting a superior plant for commercial release

Step 1 – Collection of seed, cuttings, or plants.
NRCS PMC staff and Field Office personnel participate in collecting suitable plant materials.

Step 2 – Initial Evaluation
Conducted at the PMC or another location. The better performing accessions are chosen for further study.

Step 3 – Initial Seed and Plant Increase
Conducted at the PMC.

Step 4 – Advanced Evaluation
Conducted at the PMC or at locations representing specific environmental conditions. The superior accession(s) are chosen.

Step 5 – Large Scale Seed and Plant Increase of chosen accession
Conducted at the PMC

Step 6 – Off Center Field Plantings/Adaptation Studies

Step 7 – Naming and Release of cultivars(s) or germplasm for the commercial market

Step 8 – Production of Foundation or Breeder seed for the commercial market. Seed increase blocks are maintained at the PMC.

Initial Seed and Plant Increase

The following plant specie is being increased for advanced testing:

Common Name	Scientific Name	Acc.#	Origin
Deertongue	Dicanthelium clandestinum	9057334	Camp Co., TX

Advanced Evaluation

Advanced Evaluation of Deertongue, *Dicanthelium clandestinum* (L.) Project #:59A015D

Introduction: Deertongue is a perennial native bunchgrass. This grass is considered a pioneer plant due to its ability to grow on a variety of low fertility soils. Pioneer plants provide initial soil stabilization benefits and allow succession plants to increase on the site.

Objective: The objective of this project is to select a suitable accession as a component of mixes for revegetation of surface mined lands and other disturbed areas including timber logged sites.

Summary: During 2000, Accession #9057333 was eliminated from the study. The decision was made to continue evaluation of Accession #9057334.

Advanced Evaluation of Beaked panicum, *Panicum anceps Michx.* Project #: 59I040L

Introduction: Beaked panicum is a native warm season grass. This perennial grass generally occurs on poorly drained land. Game birds and waterfowl eat the seed.

Objective: The objective of this study is to develop a release of beaked panicum for conservation uses in MLRA's 84C, 86A&B, 87A&B, 133B, 150A&B, and 152B of Texas and Louisiana.

Summary: Severe drought effected the five accessions chosen for evaluation in relation to their vigor and seed production. They did survive the summer and will be evaluated again in 2001.

Large Scale Seed Increase

During or following advanced evaluations, those accessions with superior characteristics are established in increase blocks. The following accessions are currently being increased for field plantings, foundation plots, or further testing:

Common Name	Scientific Name	Acc.#	Study #
Herbaceous mimosa	Mimosa strigillosa	PI548994	59S025D
Virginia wildrye	Elymus virginicus	PI436971	59S032G
Eastern gamagrass	Tripsacum dactyloides	PI595896 PI595897	59S034G
Florida paspalum	Paspalum floridanum	9043874	59S035G

Off Center and Demonstration Plantings

Planting Number	PMC Species	Date Planted
ETPMC-CT-00-01	Virginia wildrye	10/27/1999
ETPMC-CT-00-02	Virginia wildrye	10/28/1999
ETPMC-CT-00-03	Virginia wildrye	10/26/1999

Joe Geistweidt of the Texas Agricultural Extension Service completed these plantings in Somervell County, Texas. Virginia wildrye can be used as a component in a cool season forage mix or as a part of a revegetation mix for disturbed areas.

ETPMC-DT-00-04 **Vetivergrass** **03/07/2000**

On March 7, the PMC assisted the Anderson-Houston SWCD and Palestine Field Delivery Team by providing 1200 vetivergrass plants and technical assistance for an EQIP educational demonstration project near Montalba, Texas. The project demonstrates the use of vegetative hedges or buffers to stabilize a gully. These hedges slow water flow and intercept sediment, thereby reducing soil erosion.

ETPMC-CT-00-05 Eastern gamagrass 02/05/2000

Vegetative plantings in Bell, Williamson, and Navarro counties were completed in January 2000. 'Jackson' Eastern gamagrass from the PMC, San Marcos selection from Knox City PMC, and collections from surrounding counties were compared in these plantings. Each planting was 20 acres in size. Soil moisture amount was plentiful during establishment. Dalton Merz, NRCS Rangeland Specialist, evaluated the plantings in July and estimated a survival of 80%. However, after evaluation, the plantings did not receive any rain from June 19 to September 19, 2000. The plantings were not evaluated in the fall.

ETPMC-DT-00-06 Aquatic species 03/22/2000

The Plant Materials Center assisted the US Forest Service with a constructed wetlands system at the Caney Creek Recreation area. US Forest Service and PMC personnel planted various aquatic species including juncus and cutgrass.

Plant and Seed Distribution for 2000

During 2000, the East Texas Plant Materials Center distributed 7,217 plants and 165 pounds of seed. These materials were distributed to commercial seed growers, state and federal agencies, and Natural Resources Conservation Service State and Field Offices.

PMC Facility Use

The Plant Materials Center was utilized or toured by 1184 people during 2000. The Center was utilized for environmental educational contests, PMC tours, and NRCS training sessions.

PMC Publications

Dr. M. Chang and M. Adams. Herbaceous mimosa-A Reclamation Species. Stephen F. Austin Arthur Temple College of Forestry and East Texas Plant Materials Center, Nacogdoches, Texas. February 2000.

M. Brakie. Crockett Germplasm Herbaceous mimosa. East Texas Plant Materials Center, Nacogdoches, Texas. January 2000.

M. Brakie and M. Adams. 1999 Annual Activity Report. East Texas Plant Materials Center, Nacogdoches, Texas. March 2000.

M. Brakie, M. Adams, Dr. J.L. Young. Yield and Quality of Eastern gamagrass Selections as Affected by Clipping Interval and N Rates. East Texas Plant Materials Center, Nacogdoches, Texas. March 2000.

M. Brakie. ETPMC Newsletter. East Texas Plant Materials Center, Nacogdoches, Texas. August 2000.

PMC Presentations

Date presented: 1/13/00 Presenter: M. Brakie
Title: PMC Activities Update to Deep East Texas Assoc. of SWCD's
Location: Livingston, Texas

Date presented: 3/7/00 Presenter: PMC Staff
Title: Vegetative Buffer Demonstration Planting
Location: Palestine, Texas

Date Presented: 3/20/00 Presenter: PMC Staff
Title: Planting of Caney Creek Constructed Wetlands System
Location: Caney Creek Recreation Area

Date Presented: 4/4/00 Presenter: M. Brakie and J. Alderson
Title: Update of PMC Activities for State Conservationist Advisory Meeting
Location: Alexandria, Louisiana

Date Presented: 5/9/00 Presenter: M. Brakie
Title: Information about Eastern Gamagrass Growth and Propagation
Location: Bellville, Texas

Date Presented: 5/17/00 Presenter: M. Brakie
Title: Presentation of PMC Constructed Wetland Activities in the Big 8 RC&D Area
Location: Bryan, Texas

Date Presented: 6/8/00 Presenter: M. Brakie and J. Alderson
Title: GLCI Warm Season Grass Tour
Location: East Texas Plant Materials Center

Date Presented: 8/9/00 Presenter: M. Brakie and T. Allen
Title: East Texas Plant Materials Center Activities
Location: Aberdeen, Idaho

Date Presented: 9/13/00 Presenter: T. Allen
Title: East Texas Plant Materials Center Activities
Location: Oklahoma City, Oklahoma